

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Andrew Szabo  
Serial No. : 09/583,048  
Filed : May 30, 2000  
For : DATABASE ACCESS SYSTEM  
Group Art Unit: 2164  
Examiner : Leslie Wong

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July 3, 2006

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

**Appeal Brief Under 37 C.F.R. § 41.37**

Applicant herewith submits its Appeal Brief pursuant to 37 C.F.R. § 41.37. A Notice of Appeal under 37 C.F.R. § 1.191 was timely mailed on May 2, 2006, and received May 5, 2006 by the USPTO. The Appeal Brief is thus due July 5, 2006.

The claims were twice rejected, on June 1, 2005 and November 3, 2005, providing jurisdiction for this appeal under 35 U.S.C. § 134(a).

The fee due under 37 C.F.R. § 41.20(b)(2), \$500.00, accompanies this Appeal Brief. If any additional fees are due in connection herewith, these may be charged to Deposit Account 50-0427.

**(i) Real party in interest**

The real party in interest is Alberti Anemometer LLC. An assignment in favor of Alberti Anemometer LLC was filed with the U.S. Patent and Trademark Office on November 8, 2004.

**(ii) Related appeals and interferences**

There are no related prior appeals, interferences, or judicial proceedings known to appellant, the appellant's legal representative, or assignee which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(iii) Status of claims**

Claims 1-36 are in the application.

Claims 1-32 are rejected.

There is no indication in the advisory action dated April 26, 2006 that the amendment of the claims presented February 3, 2006 was denied.

The rejections of claims 1-32 are appealed.

To the extent that claims 33-36 are deemed rejected, the rejection of claims 33-36 is appealed.

**(iv) Status of amendments**

An Amendment (denominated “Amendment Pursuant to 37 C.F.R. § 1.111”) was presented by applicant, which it is respectfully submitted is or should be entered. The Office Action dated November 3, 2006, is ambiguous as to whether the rejection was Final; while the “This action is **FINAL**” checkbox on the Office Action Summary is marked, however, the remainder of the Office Action does not address finality, and the art rejection is a new ground of rejection. That is, the Office Action fails to comply with MPEP ¶ 706.07, which states:

...The final rejection letter should conclude with Form Paragraph 7.39.

**¶ 7.39 Action Is Final**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

An Advisory Action was mailed in response to the February 3, 2006 Amendment, indicating that the Examiner treats the action as “Final”. However, applicant believes that the action was not properly marked “FINAL”, both because the grounds of rejection are new and not precipitated by an amendment of the claims by applicant, and for failure to comply with USPTO policies. Therefore, it is respectfully submitted that the response was properly submitted under 37 C.F.R. § 1.111, and the amendments presented therein are made of record.

**(v) Summary of claimed subject matter**

Below is a concise explanation of the subject matter defined in each of the independent claims involved in the appeal. Included are references to the specification by page and line number, and to the drawing, if any, by reference characters. For each independent claim involved in the appeal and for each dependent claim argued separately under the provisions of paragraph (c)(1)(vii) of this section, every means plus function and step plus function as permitted by 35 U.S.C. 112, sixth paragraph, the structure, material, or acts described in the specification as corresponding to each claimed function are be set forth with reference to the specification by page and line number, and to the drawing, if any, by reference characters.

In summary, the present invention provides a system, method and computer software employing a “browser” type interface (i.e., a user interface for defining and retrieving objects based on a resource locator thereof), accessing a search engine to perform a search, and presenting the search results including at least three objects automatically organized within a hierarchy having at least three levels of genus-species related objects, wherein the search results are automatically organized within the hierarchy based on its respective information content in relation to other object(s).

Without prejudice or disclaimer, nor limitation as to other portions of the specification which support the claim language, or alternate interpretations of the claim language, applicant herewith provides a brief summary of the claimed subject matter in compliance with 37 C.F.R. 41.37(b)(v).

Claim 1 provides A method of providing a human-computer user interface (page 1, line 1, page 93, line 23), comprising the steps of:

(a) providing the a user with a user interface for defining and retrieving objects based on a resource locator thereof (Page 93, line 25);

(b) providing access to an object search engine for selecting objects from a set of objects, according to a user-defined information content criteria, and returning at least respective resource locators of selected objects (Page 93, lines 25-27); and

(c) presenting to the user at least three of the selected objects according to a hierarchal organizational structure having at least three hierarchal levels (page 93, line 7, page 94, line 17, original claim 7), a respectively lower level falling within a respectively higher level having a generic characteristic (page 66, lines 14-17, page 105, lines 11-22), wherein a selected object is automatically placed within the hierarchal organizational structure based on a respective information content of the at least two selected objects (page 41, lines 12-17, page 93, lines 28-29), to thereby group objects having an information content relation and classify characteristics of objects within classes (page 70, line 24-page 71, line 2).

Claim 27 provides a system for providing a human-computer user interface (page 1, line 1, page 93, lines 23), comprising:

(a) a set of navigational tools for defining and retrieving objects based on a resource locator thereof (Page 93, lines 23-25);

(b) an interface for an object search engine for selecting a set of objects according to a user-defined information content criteria and returning respective resource locators of selected objects (Page 93, lines 25-27); and

(c) an output, presenting selected objects automatically located within a hierarchal organizational structure (page 93, line 7, page 94, line 17) based on an information content of respective objects (page 129, lines 20-25), a respectively lower hierarchal level falling within a

respectively higher hierarchal level having a generic characteristic (page 66, lines 14-17, page 105, lines 11-22), wherein objects having related information content are grouped together and each group represents an information classification ((page 41, lines 12-17, page 70, line 24-page 71, line 2, page 93, lines 28-29).

Claims 32 provides a method of outputting representations of selected objects organized in a taxonomic hierarchy (page 66, line 30-page 67, line 10, page 77, line 19), comprising the steps of:

- (a) receiving a user input for selecting objects from a set of objects having varying relevance to the user input (page 93, line 23-page 94, line 2);
- (b) selecting objects from the set of objects according to a correspondence between the user input and an information content associated with respective objects (page 41, lines 12-17, page 66, lines 1-9, page 70, line 26-page 71, line 2, page 78, line 29-page 79, line 2, page 129, lines 20-22);
- (c) automatically organizing the selected objects within classes of a taxonomic hierarchy according to a respective information content (page 41, lines 12-17, page 93, lines 28-29), the taxonomic hierarchy having at least three levels (page 93, line 7, page 94, line 17, original claim 7), a class at a respective level meeting a classification generic for a respective class at inferior level classification below it, and objects at a same inferior level within different classes not being generic for each other (page 66, lines 14-17, page 83, lines 11-12, page 105, lines 11-22); and
- (d) outputting perceptual representations of the selected objects organized within the taxonomic hierarchy (page 40, lines 5-8, page 65, lines 7-12, page 90, lines 17-25) .



**(vi) Grounds of rejection to be reviewed on appeal**

**I. CLAIM OBJECTIONS**

Claim 32 is objected to because the preamble is unclear.

**II. FORMAL CLAIM REJECTIONS**

Claims 1-32 are rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**III. NON-STATUTORY SUBJECT MATTER REJECTION**

Claim 32 is rejected under 35 U.S.C. § 101 for being allegedly directed to non-statutory subject matter.

**IV. DOUBLE PATENTING REJECTIONS**

1. Claims 1-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,686,525 B1.

2. Claims 27-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 33-37 of U.S. Patent No. 6,686,525 B1.

3. Claim 32 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 48-54 of U.S. Patent No. 6,686,525 B1.

**V. ART REJECTIONS**

1. Claims 1-9 and 12-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelhurst et al., US 5,974,412, in view of Hao et al., US 6,377,287.

2. Claims 10-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelhurst et al., US 5,974,412, in view of Hao et al., US 6,377,287 and Hanson, US 5,974,398.

## **(vii) Argument**

### **I. CLAIM OBJECTIONS**

Claim 32 is objected to because the preamble is unclear.

The preamble to claim 32 was amended on February 3, 2006, without prejudice or disclaimer, to address the concern of the Examiner by reciting the essence of step d within the preamble. Entry of this amendment was not denied.

Applicant knows of no legal or regulatory basis for a rejection of, or objection to, a claim based on the fact that the preamble is succinct. Applicant respectfully requests that the Board address definitively whether such a rejection is proper.

## II. FORMAL CLAIM REJECTIONS

Claims 1-32 are rejected under 35 U.S.C. § 112, second paragraph, as being allegedly indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected because the limitation “the user” allegedly lacks antecedent basis. Applicant has amended the claim to recite “a user” rather than “the user”. It is noted that the preamble includes “a human-computer user interface”, and therefore that this provides antecedent basis for “the user”. This amendment is therefore not required for patentability, and does not give rise to any estoppels under *Festo*. See, *Energizer Holdings, Inc. v. International Trade Commission*, (Fed. Cir. 2006 05-1018).

Claims 5 and 13 recite the limitation “the user-defined search criteria”. Claim 1 provides “...an object search engine for selecting objects from a set of objects, according to a user-defined information content criteria...” While applicants do not believe that the phraseology of claim 5 and 13 gives rise to any ambiguity, and thus amendment is not required for patentability, applicant has amended claims 5 and 13 to recite “the user-defined information content criteria”, which conforms with claim 1. This amendment is therefore not required for patentability, and does not give rise to any estoppels under *Festo*. See, *Energizer Holdings, Inc. v. International Trade Commission*, (Fed. Cir. 2006 05-1018).

Claims 15 and 22 recite the limitation “the user-defined content criteria”. Claim 1 provides “...an object search engine for selecting objects from a set of objects, according to a user-defined information content criteria...” While applicants do not believe that the phraseology of claims 15 or 22 gives rise to any ambiguity, and thus amendment is not required for patentability, applicant has amended claims 15 and 22 to recite “the user-defined information

content criteria”, which conforms with claim 1. This amendment is therefore not required for patentability, and does not give rise to any estoppels under *Festo*. See, *Energizer Holdings, Inc. v. International Trade Commission*, (Fed. Cir. 2006 05-1018).

Claim 19 recites the limitation “the presented links”. Claim 1 provides “...presenting to the user at least three of the selected objects...” and claim 19 provides “..displaying links to the selected objects...” While applicants do not believe that claim 19 is ambiguous or indefinite, and thus the amendment is not required for patentability, applicant has amended claim 19 to recite “the displayed links”, which conforms with the antecedent language of claim 19. This amendment is therefore not required for patentability, and does not give rise to any estoppels under *Festo*. See, *Energizer Holdings, Inc. v. International Trade Commission*, (Fed. Cir. 2006 05-1018).

Claim 31 recited the limitation “the user-defined search criteria”. Claim 27 provides “...an object search engine for selecting a set of objects according to a user-defined information content criteria...” While applicants do not believe that the phraseology of claim 31 gives rise to any ambiguity, and thus amendment is not required for patentability, applicant has amended claim 31 to recite “the user-defined information content criteria”, which conforms with claim 27. This amendment is therefore not required for patentability, and does not give rise to any estoppels under *Festo*. See, *Energizer Holdings, Inc. v. International Trade Commission*, (Fed. Cir. 2006 05-1018).

### III. NON-STATUTORY SUBJECT MATTER REJECTION

Claim 32 is rejected under 35 U.S.C. § 101 for being allegedly directed to non-statutory subject matter.

Claim 32 clearly included a step of “outputting representations of the selected objects organized within the taxonomic hierarchy”, and thus defined a definite act within the “technological arts”, citing *In re Schrader*, 22 F.3d at 296, 30 USPQ2d at 1460. However, the USPTO in its “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility”, [http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101\\_20051026.pdf](http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf), makes clear *Schrader* does not set forth the test for patentability under 35 U.S.C. § 101, see *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 50 USPQ2d 1447 (Fed. Cir. 1999):

#### iv. *Schrader* and *Grams* distinguished

In the *AT&T* decision, the Federal Circuit stated that *Schrader* and *Grams* were not persuasive because the *Schrader* court and the *Grams* court relied upon the Freeman-Walter-Abele test instead of determining if the subject matter was applied in a practical manner to produce a useful, concrete and tangible result. The Federal Circuit stated:

*In re Grams* [888 F.2d 835, 12 USPQ2d 1824 (Fed. Cir. 1989)] is unhelpful because the panel in that case did not ascertain if the end result of the claimed process was useful, concrete, and tangible. Similarly, the court in *In re Schrader* [22 F.3d 290, 30 USPQ2d 1455 (Fed. Cir. 1994)] relied on the Freeman-Walter-Abele test for its analysis of the method claim involved. The court found neither a physical transformation nor any physical step in the claimed process aside from the entering of data into a record. See 22 F.3d at 294, 30 USPQ2d at 1458. The *Schrader* court likened the data-recording step to that of data-gathering and held that the claim was properly rejected as failing to define patentable subject matter. See *id.* at 294, 296, 30 USPQ2d at 1458-59. The focus of the court in *Schrader* was not on whether the mathematical algorithm was applied in a practical manner since it ended its inquiry before looking to see if a useful, concrete, tangible result ensued. Thus, in light of our recent understanding of the issue, the *Schrader* court’s analysis is as unhelpful as that of *In re Grams*.

*AT&T*, 172 F.3d at 1360, 50 USPQ2d at 1453. Accordingly, the Federal Circuit has made clear that *Schrader* and *Grams* are not helpful in analyzing claims under section 101.

However, applicant has presented an amendment to claim 32, which provides the step of “outputting perceptual representations...” See also Ex Parte Carl A. Lundgren, Appeal No. 2003-2088 (Bd. Pat. App. & Interf. Sept. 2005). This amendment is therefore not required for patentability, and does not give rise to any estoppels under *Festo*. See, *Energizer Holdings, Inc. v. International Trade Commission*, (Fed. Cir. 2006 05-1018).

In an accompanying proposed amendment, applicants propose to withdraw the amendment to element (d) of claim 32. In view of the Board’s prior determination on this issue, it is respectfully requested that the rejection of the examiner be expressly reversed.

#### IV. DOUBLE PATENTING REJECTIONS

1. Claims 1-26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-32 of U.S. Patent No. 6,686,525 B1.

Claim 1 of the present application is allegedly patentably indistinct from claim 1 of US 6,868,525. However, claim 1 of the instant application significantly differs from claim 1 of US 6,868,525 in that in the present application, (a) no criterion independent of an associated object content is employed to locate an object within the hierarchy (which is required by claim 1 US 6,868,525); and (b) the present claims require at least three levels of hierarchy (each having at least one associated object), a respectively lower level falling within a respectively higher level having a generic characteristic.

Since each of the claims 1 of the present invention and 1 of US 6,868,525 comprises at least one element which is narrower than the corresponding element of the other claim, these limitations being non-obvious, it is respectfully submitted that the claims are not obvious in view of one another and are patentably distinct. It is further respectfully submitted that the standard recited by the Examiner, the inquiry of whether the omission of the different elements would interfere with the functionality of the steps previously claimed and would perform the same function, *in re Karlson*, 136 USPQ 184 (CCPA 1963) is not the applicable standard of obviousness, and in any case is not met, because the claims achieve substantially different functions.

2. Claims 27-31 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 33-37 of U.S. Patent No. 6,868,525 B1.

Claim 27 of the present application is allegedly patentably indistinct from claim 33 of US 6,868,525. Claim 33 of US 6,868,525 comprises an object search engine, while claim 27 of the

present invention includes an interface of an object search engine, which are substantially dissimilar. Likewise, claim 33 of US 6,868,525 requires that the object search engine employ at least first and second schemes for selecting objects ..., wherein at least a portion of the selected objects are organized within the hierarchal organization structure based on an associated content and a respective scheme employed to select that object...” Claim 27 of the present application includes no such plurality of schemes. Claim 33 of US 6,868,525 further requires that the hierarchal organizational structure include at least one object extrinsic to the selected objects, for which there is no analogy in claim 27 of the present invention. Finally, claim 27 of the present invention provides that “a respectively lower hierarchal level falling within a respectively higher hierarchal level having a generic characteristic, wherein objects having related information content are grouped together and each group represents an information classification.”

Since each of claims 27 of the present application and claim 33 of US 6,868,525 comprises at least one element which is narrower than the corresponding element of the other claim, these limitations being non-obvious, it is respectfully submitted that the claims are not obvious in view of one another and are patentably distinct. It is further respectfully submitted that the standard recited by the Examiner, the inquiry of whether the omission of the different elements would interfere with the functionality of the steps previously claimed and would perform the same function, *in re Karlson*, 136 USPQ 184 (CCPA 1963) is not the applicable standard of obviousness, and in any case is not met, because the claims achieve substantially different functions.

3. Claim 32 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 48-54 of U.S. Patent No. 6,686,525 B1.



Claim 32 of the present application requires that objects be selected from the set of objects “according to a correspondence between the user input and an information content associated with respective objects”, while claim 48 of US 6,868,525 provides the step of “selecting a set of objects in dependence on the content selection criteria”. Claim 32 of the present application thus adds a material limitation to the corresponding claim element, that the selection be according to information content. Separately, claim 48 of US 6,868,525 populates a hierarchal organizational structure in dependence on an associated selected object content, but this is clearly distinguished from the former step.

Claim 32 of the present invention provides that the taxonomic hierarchy has “at least three levels, a class at a respective level meeting a classification generic for a respective class at inferior level classification below it, and objects at a same inferior level within different classes not being generic for each other”, a limitation without analog in claim 48 of US 6,868,525.

Finally, claim 48 of US 6,868,525 requires the step of “additionally automatically populating the hierarchal organization structure with a set of additional objects selected independent of an associated selected object content, the additional objects being populated in dependence on a relation of a respective additional object and the input, wherein the hierarchal organizational structure has at least one level having at least two objects.” This step has no analogy in claim 32 of the present application.

Since each of claims 32 of the present application and claim 48 of US 6,868,525 comprises at least one element which is narrower than the corresponding element of the other claim, these limitations being non-obvious, it is respectfully submitted that the claims are not obvious in view of one another and are patentably distinct. It is further respectfully submitted that the standard recited by the Examiner, the inquiry of whether the omission of the different

elements would interfere with the functionality of the steps previously claimed and would perform the same function, *in re Karlson*, 136 USPQ 184 (CCPA 1963) is not the applicable standard of obviousness, and in any case is not met, because the claims achieve substantially different functions.

## V. ART REJECTIONS

1. Claims 1-9 and 12-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelhurst et al., US 5,974,412, in view of Hao et al., US 6,377,287.

The Examiner admits that Hazelhurst et al. fails to teach element (c) of claims 1 and 27, and cites Hao et al. to remedy this deficiency. The Examiner alleges, however, that Hao et al. teach a three-level hierarchy, and that a person of ordinary skill in the art would have had motivation to combine these two references, and modify the teachings of Hazelhurst et al., to achieve the presently claimed invention.

While it is true that Hao et al. indeed do teach a three level hierarchy, Hao et al. do not teach or suggest automatic allocation of the elements within hierarchal classes based on a content thereof. Hao et al. relies on explicit links between objects in order to define a hierarchal mapping thereof, and these links are not taught or suggested to be based on an “information content” of an object. Therefore, the system and method of Hao et al. does not address object content analysis, and the fuzzy class mapping and ambiguities that would be inherent in a real-world search result.

That is, in accordance with the present invention, there is no requirement for such explicit links, and Hao et al. is therefore distinguished, since the application of Hao et al. to Hazelhurst et al. would result in a system in which the objects from the search engine have explicit links or extrinsically defined organization structure, not necessarily dependent on object information content. Given the missing teaching, there would be no motivation for a person of ordinary skill in the art to combine the references seeking to achieve the presently claimed invention.

Likewise, neither Hazelhurst et al. nor Hao et al. is enabling for the presently claimed invention of claims 1-9 and 12-32. Thus, even were the examiner’s tortured interpretation of

Hao et al. be deemed to literally support the deficiencies of Hazelhurst et al., neither reference is enabling to the extent necessary to render operable the supposed combination. Fig. 3 of Hao et al shows nothing more than a hyperbolic tree representation of a hierarchy with top and first level nodes bearing classifications, and a third (and in some cases fourth) level without labels. There is no disclosure, at Col. 3, lines 1-28, or elsewhere, that the “a selected object is automatically placed within the hierarchal organizational structure based on a respective information content of the at least two selected objects” (claim 1), “objects automatically located within a hierarchal organizational structure based on an information content of respective objects” (claim 27), or “automatically organizing the selected objects within classes of a taxonomic hierarchy according to a respective information content” (claim 32).

Hao et al. do not teach or suggest any content analysis at all, and the Summary of the Invention, Col. 2, line 56-Col. 4, line 6, make clear that the links are presumed to be provided externally or a priori, for use in generating a display representation. For example, the distinction between primary and secondary links can only be established externally to the system of Hao et al., since presumably, on an object information content basis alone, this could not be readily or definitively resolved.

If one were to combine the Hazelhurst et al. and Hao et al. references, the result would require the linkage data to be imported with the objects. This would impose a hierarchy on the Hazelhurst et al. system, but it is respectfully submitted that this would be counter to the teachings of Hazelhurst et al., which states: “An Intelligent Query Engine (IQE) system automatically develops multiple information spaces in which different types of real-world objects (e.g., documents, users, products) can be represented. The system then delivers information to users based upon similarity measures applied to the representations of the objects

in these information spaces. The system simultaneously classifies documents, users, products, and other objects. Any object which can be related to or represented by a document (a chunk of text) can participate in the information spaces and can become the target of similarity metrics applied to the spaces.” That is, the system assumes that there are no predetermined relationships, or that any such predetermined relationships are not useful on an *ad hoc* basis, thus requiring classification of objects, not merely reporting of previous predetermined relationships. The system of Hazelhurst et al. does not produce linkages, but rather classifications, and thus would not be able to supply these for the Hao et al. system, especially in a manner which distinguishes primary and secondary linkages. Hazelhurst et al. therefore teach against the alleged missing teaching supplied by Hao et al., and there is no teaching or suggestion to modify the references to achieve the claimed invention.

It is therefore respectfully submitted that the combination of Hazelhurst et al. and Hao et al. fails to meet the requirements of the presently claimed invention, and that the claims are not obvious in view thereof. Reconsideration of the rejection is respectfully requested.

It is therefore respectfully submitted that claims 1-9 and 12-32 distinguish the proposed combination of Hazelhurst et al. and Hao et al.

2. Claims 10-11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Hazelhurst et al., US 5,974,412, in view of Hao et al., US 6,377,287 and Hanson, US 5,974,398.

While the aforementioned distinctions of claims 1-9 and 12-32 are believed sufficient to overcome the rejection of dependent claims 10 and 11 over Hazelhurst et al, in view of Hao et al. and Hanson et al. (US 5,974,398), these two claims are further distinguished as follows.

The Examiner admits that Hazelhurst et al. and Hao et al. fail to teach the charging of a commercial message sponsor for delivery of commercial messages based on a semantic context of message delivery, as required by claim 10. Hanson et al. provides a system and method which is responsive to the user profile, not the semantic context, as required by claim 10.

Likewise, with respect to claim 2, from which claim 11 indirectly depends, Hanson et al. do not teach at all that the commercial messages are presented together with otherwise requested content, and would appear to make clear that the commercial content is clearly segregated and handled separately from any other content delivered to a user.

Thus, Hanson et al. fails to remediate the deficiencies of Hazelhurst et al. and Hao et al., and fails to enable an operable embodiment within the scope of claims 10 or 11.

## SEPARATE ARGUMENTS FOR PATENTABILITY OF CLAIMS

### Independent Claims 1, 27

Claims 1, 7, 8, 9, 14, 18, 20, 26, and 27 may be grouped together for purposes of appeal.

### Independent Claim 32

Claim 32 separately distinguishes the references with respect to claims 1 and 27, and should be grouped separately. In particular, it is noted that, as with respect to claims 1-31, the Examiner admits that Hazelhurst fails to teach element (c) of the independent claims, and applies Hao et al. to supply the missing teachings. The examiner states that “Hao teaches automatically organizing the selected objects within classes of a taxonomic hierarchy according to a respective information content...” It is respectfully submitted that the method of Hao et al is **not** sensitive to a document content, and no automatic organization based thereon, is taught or suggested. Hao et al., in fact, operates based on explicit linkages, which may be independent of the document content. Thus, for example, a document with an incorrect or contextually inappropriate explicit linkage would be organized based on that incorrect or inappropriate linkage, and not the respective content, as required by the present claim, clearly showing a difference between the present invention and Hao et al. Since this result contradicts the express claim language, Hao et al. cannot be taken to stand for the proposition set forth in the claims.

With respect to claim 32, step (c) requires that objects at a same inferior level within different classes are not generic for each other. This limitation is not found in claims 1 or 27, and this limitation is not taught or suggested by Hazelhurst et al. or Hao et al. Therefore, at least on that basis, claim 32 is independently distinguished and separately patentable.

Claims 2, 4, 5, 6, 28, 30 and 31

Claims 2, 4, 5, 28, 30, and 31, which may be grouped together for appeal, comprise inserting objects extrinsic to the user-defined information content criteria into the hierarchical organizational structure of selected objects. Neither Hazelhurst et al. nor Hao et al. teach any such limitation. The Examiner cites Hazelhurst et al. Col. 1, line 64-Col. 2, line 24 and Col. 20, lines 15-38 to support this rejection. However, these sections appear to disclose a method for responding to a query with objects intrinsic to the user-defined content criteria. Further, Hazelhurst et al. do not appear to teach organization of objects in a hierarchy, let alone organization of intrinsic and extrinsic objects within a common hierarchy. Hao et al. do not remedy the deficiencies, since there is no automated classification. According to the present invention, the intrinsic results within the hierarchy are supplemented with extrinsic results, and thus distinguished. Claims 2, 4, 5, 28, 30, and 31 are therefore independently patentable.

Claims 3, 12, 13 and 29

Claims 3 and 29, which may be grouped together for appeal, provide that the extrinsic objects of claim 2 comprise commercial messages. Per claims 2 and 28, applicants contest that Hazelhurst et al. teach or suggest “extrinsic” objects. Further, applicant contests that any of Hazelhurst et al., Col. 2, lines 48-56, Col. 10, lines 22-35, or Col. 23, lines 1-14 relates to commercial messages. Claims 2, 12, 13 and 29 are separately patentable.

Claim 10

Claim 10 provides the step of charging a commercial message sponsor for delivery of commercial messages based on a semantic context of message delivery. None of Hazelhurst et al., Hao et al., or Hanson et al. teach charging a commercial message sponsor based on context. Therefore claim 10 is separately patentable.



#### Claim 11

Claim 11 provides the step of charging a commercial message sponsor for delivery of commercial messages based on a value of a subsequent commercial transaction with the user. None of Hazelhurst et al., Hao et al., or Hanson et al. teach do not teach at all that the commercial messages are presented together with otherwise requested content, and Hanson et al. would appear to make clear that the commercial content is clearly segregated and handled separately from any other content delivered to a user, not provided in an integrated output. Therefore claim 11 is separately patentable.

#### Claim 15

Claim 15 provides the step of ranking members of the set of objects within a single hierarchal class based on a correspondence to the user-defined information content criteria. Hazelhurst et al. cannot fairly be interpreted to teach or suggest hierarchal classes, and thus cannot stand for the proposition that members of a hierarchal class within a multi-layer hierarchy are ranked. Hao et al. fail to define a ranking, and thus does not remediate the deficiency. Claim 15 is therefore independently patentable.

#### Claim 16

Claim 16 provides the step of receiving a ranking preference from the user for a ranking method for ranking members of the set of objects within a single hierarchal class. Hazelhurst et al. fail to fairly teach or suggest hierarchal classes, and thus cannot stand for the proposition that a ranking preference is received from the user, for ranking members of a hierarchal class within a multi-layer hierarchy are ranked. Hao et al. fail to define a ranking, and thus does not remediate the deficiency. Claim 16 is therefore independently patentable.

#### Claim 17

Claim 17 provides the step of graphically representing a history of access to the set of objects. Hao et al., Col. 3, lines 1-67, and otherwise, do not teach a history of access. Likewise, Hazelhurst et al. fails to teach such a history. Claim 17 is therefore independently patentable.

Claim 19 provides that at least two distinct predetermined hierarchical organizations of information are provided, each having at least three hierarchal levels for a universe of objects, further comprising the steps of:

- (a) selecting a relevant hierarchy from among the at least two distinct predetermined hierarchical organizations of information;
- (d) displaying links to the selected objects according to the relevant hierarchy; and
- (e) storing at least a subset of the displayed links within the relevant hierarchy as a state independent object.

Neither Hazelhurst et al., nor Hao et al. are believed to teach the existence of two independent hierarchal organizations, and at least on that basis claim 19 is believed independently patentable.

#### Claim 21

Claim 21 provides the step of presenting the hierarchal organizational structure with an applet, wherein the returned respective resource locators of selected objects are transmitted to the applet, which formats the set of objects in the graphic format hierarchal organizational structure, based on a relationship of a content corresponding to each object. While Hao et al. teaches a hyperbolic tree applet (admitted prior art to applicant), neither Hao et al. nor Hazelhurst et al. teach that the hierarchal organizational structure presented by the applet is formatted based on a content corresponding to each object. Claim 21 is therefore independently patentable.

#### Claim 22

Claim 22 provides the step of providing an adaptive user profile applet, comprising a collaborative filter for initial classification, which is subsequently modified based on user observation, wherein the user-defined information content criteria is based on an explicit user input and a function of the adaptive user profile applet. Neither Hao et al. nor Hazelhurst et al. teach or suggest the use of an adaptive user profile applet comprising a collaborative filter, which is modified based on user observation, nor that any such applet provides an input for basing the user-defined information content criteria. Claim 22 is therefore independently patentable.

#### Claim 23

Claim 23 provides the step of defining the hierarchical organizational structure as a user taxonomic hierarchy of interests, correlating the user taxonomic hierarchy with a set of reference taxonomic hierarchies, and modifying the user taxonomic hierarchy based on sets of rules associated with a reference taxonomic hierarchies having high correlations. Hazelhurst et al. fails to teach or suggest at least a user taxonomic hierarchy of interests. Further, Hazelhurst et al. do not correlate the user taxonomic hierarchy with a set of reference taxonomic hierarchies, and modify the user taxonomic hierarchy based on sets of rules associated with a reference taxonomic hierarchies having high correlations. Hao et al. do not remedy these deficiencies. Claim 23 is therefore independently patentable.

#### Claim 24

Claim 24 provides at least one object which has an associated digital rights rule, further comprising the step of applying digital rights rules to accesses of objects by the user. Neither Hazelhurst et al. nor Hao et al. appear to teach or suggest a digital rights rule, and therefore claim 24 is independently patentable.

## Claim 25

Claim 25 provides at least one digital rights rule which provides a positive incentive to the user. Neither Hazelhurst et al. nor Hao et al. appear to teach or suggest a digital rights rule with a positive incentive to a user, and therefore claim 25 is independently patentable.

## CLAIMS 33-36

Claims 33-36 have not been examined on the merits, and therefore are not rejected. These claims are argued separately.

Claim 33 provides the steps of inserting objects extrinsic to the set of objects responsive to the user-defined information content criteria, into classes within the hierarchal organizational structure of selected objects, said extrinsic objects having a contextual relevance to respective class in which they are inserted, wherein at least one of an insertion and a selection by the user of an extrinsic object is selectively associated with a sponsor payment; and accounting in a database for said sponsor payments. Claim 33, beyond claim 10, thus requires at least the addition of a database for accounting for sponsor payments, and is independently patentable.

Claim 34 that the extrinsic objects comprise at least one hyperlink.


Claim 35 provides the step of ranking objects within a class based on a sponsor payment consideration.

Claim 36 provides the step of defining a user profile, for modifying at least one of a selection of objects responsive to the user-defined information content criteria, and a selection of extrinsic objects.

## CONCLUSION

It is therefore respectfully submitted that the rejections of the Examiner should be reversed, and that the application is allowable.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Steven M. Hoffberg", written in a cursive style.

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**(viii) Claims appendix A**

Below is a copy of the claims involved in the appeal:

1. A method of providing a human-computer user interface, comprising the steps of:
  - (a) providing a user with a user interface for defining and retrieving objects based on a resource locator thereof;
  - (b) providing access to an object search engine for selecting objects from a set of objects, according to a user-defined information content criteria, and returning at least respective resource locators of selected objects; and
  - (c) presenting to the user at least three of the selected objects according to a hierarchal organizational structure having at least three hierarchal levels, a respectively lower level falling within a respectively higher level having a generic characteristic, wherein a selected object is automatically placed within the hierarchal organizational structure based on a respective information content of the at least two selected objects, to thereby group objects having an information content relation and classify characteristics of objects within classes.
2. The method according to claim 1, further comprising the step of inserting objects extrinsic to the user-defined information content criteria into the hierarchal organizational structure of selected objects.
3. The method according to claim 2, wherein the extrinsic objects comprise commercial messages.

4. The method according to claim 2, wherein the extrinsic objects comprise objects identified through a collaborative filter process.

5. The method according to claim 2, wherein the extrinsic objects are contextually related to the user-defined information content criteria.

6. The method according to claim 2, wherein the extrinsic objects are contextually appropriate for a positioning within the hierarchal organizational structure.

7. The method according to claim 1, wherein the hierarchal organizational structure comprises a tree structure displaying at least three hierarchal levels within a graphic user interface.

8. The method according to claim 1, wherein the hierarchal organizational structure comprises a hyperbolic tree structure.

9. The method according to claim 1, wherein the hierarchal organizational structure comprises a display generated by a hyperbolic tree applet.

10. The method according to claim 3, further comprising the step of charging a commercial message sponsor for delivery of commercial messages based on a semantic context of message delivery.

11. The method according to claim 3, further comprising the step of charging a commercial message sponsor for delivery of commercial messages based on a value of a subsequent commercial transaction with the user.

12. The method according to claim 3, wherein the extrinsic objects are identified through a collaborative filter process.

13. The method according to claim 3, wherein the extrinsic objects are contextually related to the user-defined information content criteria.

14. The method according to claim 1, wherein the hierarchal organizational structure comprises a state independent information object.

15. The method according to claim 1, further comprising the step of ranking members of the set of objects within a single hierarchal class based on a correspondence to the user-defined information content criteria.

16. The method according to claim 1, further comprising the step of receiving a ranking preference from the user for a ranking method for ranking members of the set of objects within a single hierarchal class.



17. The method according to claim 1, further comprising the step of graphically representing a history of access to the set of objects.

18. The method according to claim 1, further comprising the steps of manipulating an object within the hierarchal organizational structure through a graphic user interface, and requesting information content corresponding to the manipulated object.

19. The method according to claim 1, wherein at least two distinct predetermined hierarchical organizations of information are provided, each having at least three hierarchal levels for a universe of objects, further comprising the steps of:

- (a) selecting a relevant hierarchy from among the at least two distinct predetermined hierarchical organizations of information;
- (d) displaying links to the selected objects according to the relevant hierarchy; and
- (e) storing at least a subset of the displayed links within the relevant hierarchy as a state independent object.

20. The method according to claim 1, further comprising the step of defining a user profile, for modifying at least one of the selection by the object search engine, and a hierarchy.

21. The method according to claim 1, further comprising the step of presenting the hierarchal organizational structure with an applet, wherein the returned respective resource locators of selected objects are transmitted to the applet, which formats the set of objects in the

graphic format hierarchal organizational structure, based on a relationship of a content corresponding to each object.

22. The method according to claim 1, further comprising the step of providing an adaptive user profile applet, comprising a collaborative filter for initial classification, which is subsequently modified based on user observation, wherein the user-defined information content criteria is based on an explicit user input and a function of the adaptive user profile applet.

23. The method according to claim 1, further comprising the step of defining the hierarchal organizational structure as a user taxonomic hierarchy of interests, correlating the user taxonomic hierarchy with a set of reference taxonomic hierarchies, and modifying the user taxonomic hierarchy based on sets of rules associated with a reference taxonomic hierarchies having high correlations.

24. The method according to claim 1, wherein at least one object has an associated digital rights rule, further comprising the step of applying digital rights rules to accesses of objects by the user.

25. The method according to claim 24, wherein at least one digital rights rule provides a positive incentive to the user.

26. A computer readable medium having stored thereon a software program for executing the method according to claim 1.

27. A system for providing a human-computer user interface, comprising:

- (a) a set of navigational tools for defining and retrieving objects based on a resource locator thereof;
- (b) an interface for an object search engine for selecting a set of objects according to a user-defined information content criteria and returning respective resource locators of selected objects; and
- (c) an output, presenting selected objects automatically located within a hierarchal organizational structure based on an information content of respective objects, a respectively lower hierarchal level falling within a respectively higher hierarchal level having a generic characteristic, wherein objects having related information content are grouped together and each group represents an information classification.

28. The system according to claim 27, wherein objects extrinsic to the user-defined information content criteria are inserted into the hierarchal organizational structure of selected objects.

29. The system according to claim 28, wherein the extrinsic objects comprise commercial messages.

30. The method according to claim 28, wherein the extrinsic objects comprise objects identified through a collaborative filter process.

31. The system according to claim 28, wherein the extrinsic objects are contextually related to the user-defined information content criteria.

32. A method of outputting representations of selected objects organized in a taxonomic hierarchy, comprising the steps of:

- (a) receiving a user input for selecting objects from a set of objects having varying relevance to the user input;
- (b) selecting objects from the set of objects according to a correspondence between the user input and an information content associated with respective objects;
- (c) automatically organizing the selected objects within classes of a taxonomic hierarchy according to a respective information content, the taxonomic hierarchy having at least three levels, a class at a respective level meeting a classification generic for a respective class at inferior level classification below it, and objects at a same inferior level within different classes not being generic for each other; and
- (d) outputting perceptual representations of the selected objects organized within the taxonomic hierarchy.

33. The method according to claim 32, further comprising the steps of inserting objects extrinsic to the set of objects responsive to the user-defined information content criteria, into classes within the hierarchal organizational structure of selected objects, said extrinsic objects having a contextual relevance to respective class in which they are inserted, wherein at least one of an insertion and a selection by the user of an extrinsic object is selectively associated with a sponsor payment; and accounting in a database for said sponsor payments.

34. The method according to claim 33, wherein said extrinsic objects comprise at least one hyperlink.

35. The method according to claim 33, further comprising the step of ranking objects within a class based on a sponsor payment consideration.

36. The method according to claim 33, further comprising the step of defining a user profile, for modifying at least one of a selection of objects responsive to the user-defined information content criteria, and a selection of extrinsic objects.

**(ix) Evidence appendix**

Below is an appendix containing copies of any evidence submitted pursuant to §§ 1.130, 1.131, or 1.132 of this title or of any other evidence entered by the examiner and relied upon by appellant in the appeal, along with a statement setting forth where in the record that evidence was entered in the record by the examiner. Reference to unentered evidence is not permitted in the brief. See § 41.33 for treatment of evidence submitted after appeal. This appendix may also include copies of the evidence relied upon by the examiner as to grounds of rejection to be reviewed on appeal.

NONE

**(x) Related proceedings appendix**

Below is an appendix containing copies of decisions rendered by a court or the Board in any proceeding identified pursuant to paragraph (c)(1)(ii) of this section:

NONE